The provisions of this Section will remain in effect notwithstanding the termination of this Agreement, unless agreed to in writing by both Parties.

Pursuant to Section 222 of the Act, both Parties agree to limit their use of proprietary information received from the other to the permitted purposes identified in the Act.

XVII. PUBLICITY

The Parties agree not to use in any advertising or sales promotion, press releases or other publicity matters any endorsements, direct or indirect quotes, or pictures implying endorsement by the other Party or any of its employees without such Party's prior written approval. The Parties will submit to each other for written approval, prior to publication, all publicity matters that mention or display one another's name and/or marks or contain language from which a connection to said name and/or marks may be inferred or implied.

XVIII. ASSIGNMENT

Neither Party may assign, subcontract, or otherwise transfer its rights or obligations under this Agreement except under such terms and conditions as are mutually acceptable to the other Party and with such Party's prior written consent, which consent shall not be unreasonably withheld.

XIX. DISPUTE RESOLUTION

For disputes arising out of interconnections in Texas, dispute resolution will be handled in accordance to the Interconnection Rule of the Texas PUC. For dispute resolution in Missouri, Oklahoma, Kansas and Arkansas the following procedures shall apply:

A. Finality of Disputes

No claims shall be brought for disputes arising from this Agreement more than twenty-four (24) months from the date of occurrence which gives rise to the dispute.

B. Alternative to Litigation

The Parties desire to resolve disputes arising out of this Agreement without litigation. Accordingly, except for action seeking a temporary restraining order or an injunction related to the purposes of this Agreement, or suit to compel compliance with this dispute resolution process, the Parties agree to use the following alternative dispute resolution procedure in the states of

Arkansas, Kansas, Oklahoma and Missouri as their sole remedy with respect to any controversy or claim of $25,000 or less, arising out of or relating to this Agreement or its breach. In Texas, dispute resolutions shall be handled pursuant to the Texas Interconnection Rule.

1. Resolution of Disputes Between Parties to the Agreement

At the written request of a Party, each Party will appoint a knowledgeable, responsible representative to meet and negotiate in good faith to resolve any dispute arising under this Agreement. The location, form, frequency, duration and conclusion of these discussions shall be left to the discretion of the representatives. Upon agreement, the representatives may utilize other alternative dispute resolution procedures such as mediation to assist in the negotiations. Discussions and correspondence among the representatives for purposes of settlement are exempt from discovery and production and shall not be admissible in the arbitration described below or in any lawsuit without the concurrence of all Parties. Documents identified in or provided with such communications, which are not prepared for purposes of the negotiations, are not so exempted and, if otherwise admissible, may be admitted in evidence in the arbitration or lawsuit.

2. Arbitration

If the negotiations do not resolve the dispute within sixty (60) days of the initial written request, the dispute shall be submitted to binding arbitration by a single arbitrator pursuant to the Commercial Arbitration Rules of the American Arbitration Association. A Party may demand such arbitration in accordance with the procedures set out in those rules. Discovery shall be controlled by the arbitrator and shall be permitted to the extent set out in this section. Each Party may submit in writing to a Party, and that Party shall so respond, to a maximum of any combination of thirty-five (35) (none of which may have subparts) of the following:

(a) Interrogatories
(b) Demands to produce documents
(c) Requests for admission

Additional discovery may be permitted upon mutual agreement of the Parties. The arbitration hearing shall be commenced within sixty (60) days of the demand for arbitration. The arbitration shall be held in the city where this Agreement was executed by SWBT. The

arbitrator shall control the scheduling so as to process the matter expeditiously. The Parties shall submit written briefs five days before the hearing. The arbitrator shall rule on the dispute by issuing a written opinion within thirty (30) days after the close of hearings. The arbitrator has no authority to order punitive or consequential damages. The times specified in this section may be extended upon mutual agreement of the Parties or by the arbitrator upon a showing of good cause. Judgment upon the award rendered by the arbitrator may be entered in any court having jurisdiction.

3. Costs

Each Party shall bear its own costs of these procedures. A Party seeking discovery shall reimburse the responding Party the costs of production of documents (including search time and reproduction costs). The Parties shall equally split the fees of the arbitration and the arbitrator.

XX. VERIFICATION REVIEWS

Each Party to this contract will be responsible for the accuracy and quality of its data as submitted to the respective Parties involved. Upon reasonable written notice, each Party or its authorized representative (providing such authorized representative does not have a conflict of interest related to other matters before one of the Parties) shall have the right to conduct a review and verification of the other Party to give assurances of compliance with the provisions of this Agreement. This includes on-site verification reviews at the other Party's or the Party's vendor locations.

After the initial year of this Agreement verification reviews will normally be conducted on an annual basis with provision for staged reviews, as mutually agreed, so that all subject matters are not required to be reviewed at the same time. Follow up reviews will be permitted on a reasonable time schedule between annual reviews where significant deviations are found. During the initial year of the Agreement more frequent reviews may occur.

The review will consist of an examination and verification of data involving records, systems, procedures and other information related to the services performed by either Party as related to settlement charges or payments made in connection with this Agreement as determined by either Party to be reasonably required. Each Party, whether or not in connection with an on-site verification review, shall maintain reasonable records for a minimum of twenty-four (24) months and provide the other Party with reasonable access to such information as is necessary to determine amounts receivable or payable under this Agreement.

The Parties right to access information for verification review purposes is limited to data not in excess of twenty-four (24) months in age. Once specific data has been reviewed and verified, it is unavailable for future reviews. Any items not reconciled at the end of a review will, however, be subject to a follow-up review effort. Any retroactive adjustments required subsequent to previously reviewed and verified data will also be subject to follow-up review. Information of either Party involved with a verification review shall be subject to the nondisclosure terms of this Agreement.

The Party requesting a verification review shall fully bear its costs associated with conducting the review. The Party being reviewed will provide access to required information, as outlined in this Section, at no charge to the reviewing Party. Should the reviewing Party request information or assistance beyond that reasonably required to conduct such a review, the Party being reviewed may, as its option, decline to comply with such request or may bill actual costs incurred in complying subsequent to the concurrence of reviewing Party.

XXI. COMPLIANCE WITH LAWS.

SWBT believes in good faith that the services to be provided under this Agreement satisfy the requirements of the Act and is in the public interest. USLD believes the Agreement stafisfies the standard for negotiated agreements under § 252(e)(2) of the Act. USLD makes no further admissions concerning whether and to what extend the Agreement may satisfy other provisions of the Act. In the event a court or regulatory agency of competent jurisdiction should determine that modifications of this Agreement are required to bring the services being provided hereunder into compliance with the Act, the affected Party shall promptly give the other Party written notice of the modifications deemed required. Upon delivery of such notice, the Parties shall expend diligent efforts to arrive at an agreement respecting such modifications required, and if the Parties are unable to arrive at such agreement, either Party may terminate this Agreement, without penalty, effective the day the affected Party is ordered to effect the modifications deemed required, or effective on the day either Party concludes and gives notice that the Parties will not be able to arrive at any agreement respecting such modifications, whichever date shall occur earlier.

This Agreement is an integrated package that reflects a balancing of interests critical to the Parties. It will be submitted to the State Commission with jurisdiction over telecommunications utilities ("PSC or PUC") and the FCC as a compliance filing, and the Parties will specifically request that the PSC or PUC and the FCC refrain from taking any action to change, suspend or otherwise delay implementation of the Agreement. So long as the Agreement remains in effect, the Parties shall not advocate before any legislative, regulatory, or other public forum that any terms of this specific Agreement be modified or eliminated.

Notwithstanding this mutual commitment, however, the Parties enter into this Agreement without prejudice to any positions they have taken previously, or may take in the future in any legislative, regulatory, or other public forum addressing any matters, including matters related to the types of arrangements prescribed by this Agreement.

XXII. EFFECT OF OTHER AGREEMENTS

The Parties agree that pursuant to the requirements of the Telecommunications Act of 1996, a Party shall treat the other Party no less favorably than it treats similarly situated local service providers with whom such Party has an operational interconnection agreement which has been approved by the relevant PUC or PSC and the FCC and one pursuant to which the parties to such agreement are exchanging local traffic.

XXIII. CERTIFICATION REQUIREMENTS

USLD warrants that it has obtained all necessary jurisdictional certification required in those jurisdictions in which USLD has ordered services pursuant to this Agreement. USLD covenants that if it should forward to SWBT any messages originating from a third Party, USLD will ensure that the originating service provider has obtained all required certification. Upon request by any governmental entity, USLD shall provide proof of certification to SWBT.

XXIV. NOTICES

In an event any notices are required to be sent under the terms of this Agreement, they shall be sent by registered mail, return receipt requested to:

To SWBT:	To USLD:
Jan Brainard One Bell Plaza, Room 0522 Dallas, Texas 75202	Ken Melley, Jr. 9311 San Pedro, Suite 100 San Antonio, Texas 78216

24 Hour Network Management Contact:

For SWBT:	For USLD:
Gerald Lilley 1-800-792-2662	Jay McLean 1-800-913-8858

XXV. THIRD PARTY BENEFICIARIES

This Agreement shall not provide any non-party with any remedy, claim, cause of action or other right.

XXVI. TAXES

USLD shall be responsible for all federal, state or local, sales, use, excise or gross receipts taxes or fees imposed on or with respect to the services or equipment provided under this Agreement including those taxes and fees, the incidence of which is imposed on SWBT. USLD shall reimburse SWBT for the amount of any such taxes or fees which SWBT is required to pay or collect.

XXVII. TERM

SWBT and USLD agree to interconnect pursuant to the terms defined in this Agreement for a term of one (1) year from the date USLD completes its first commercial call, and thereafter the Agreement shall continue in force and effect unless and until terminated as provided herein. Either party may terminate this Agreement by providing written notice of termination to the other party, such written notice to be provided at least sixty (60) days in advance of the date of termination; provided, no such termination shall be effective prior to August, 1997. In the event of such termination as described herein, this Agreement shall continue without interruption until: (a) a new interconnection agreement becomes effective between the parties, or (b) the State Commission determines that interconnection shall be by tariff rather than contract and both SWBT and USLD have in place effective interconnection tariffs. By mutual agreement, SWBT and USLD may amend this Agreement to modify the term of this Agreement.

XXVIII. WAIVER

The failure of either Party to enforce or insist that the other Party comply with the terms or conditions of this Agreement, or the waiver by either Party in a particular instance of any of the terms or conditions of this Agreement, shall not be construed as a general waiver or relinquishment of the terms and conditions, but this Agreement shall be and remain at all times in full force and effect.

XXIX. DISCLAIMER OF WARRANTIES

SWBT MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR INTENDED OR PARTICULAR PURPOSE WITH RESPECT TO SERVICES PROVIDED HEREUNDER.

ADDITIONALLY, SWBT ASSUMES NO RESPONSIBILITY WITH REGARD TO THE CORRECTNESS OF DATA OR INFORMATION SUPPLIED BY USLD WHEN THIS DATA OR INFORMATION IS ACCESSED AND USED BY A THIRD PARTY.

XXX. EFFECTIVE DATE

The Parties shall effectuate all the terms of this Agreement within ten (10) days upon final approval of this Agreement by the relevant State PUC or PSC when it has determined that this Agreement is in compliance with Section 252 of the Act.

XXXI. RELATIONSHIP OF THE PARTIES

This Agreement shall not establish, be interpreted as establishing, or be used by either party to establish or to represent their relationship as any form of agency, partnership or joint venture. Neither Party shall have any authority to bind the other or to act as an agent for the other unless written authority, separate from this Agreement, is provided. Nothing in the Agreement shall be construed as providing for the sharing of profits or losses arising out of the efforts of either or both of the Parties. Nothing herein shall be construed as making either Party responsible or liable for the obligations and undertakings of the other Party.

XXXII. COMPLETE TERMS

This Agreement together with its Appendices and Exhibits constitutes the entire agreement between the Parties and supersedes all prior discussions, representations or oral understandings reached between the Parties.

Neither Party shall be bound by any amendment, modification or additional terms unless it is reduced to writing signed by an authorized representative of the Party sought to be bound.

If this Agreement is acceptable to USLD and SWBT, both Parties will sign in the space provided below. This Agreement shall not bind USLD and SWBT until executed by both parties. This Agreement will be governed by and interpreted in accordance with the laws of the State of Missouri.

THIS AGREEMENT CONTAINS A BINDING ARBITRATION AGREEMENT.

Sign and Print Name: Date:	Sign and Print Name: Date:
Richard Burk	Stephen M. Carter
Vice President Strategic Planning	Vice President-General Manager (Special Markets)
Position/Title	Position/Title
US LONG DISTANCE, INC.	Southwestern Bell Telephone Company

9-5-96

USLD
SCHEDULE 1 - PRICE LIST

- **Unbundled Elements**

Loop - Monthly Recurring Charges*

	Oklahoma
2-wire analog 8db loop	$17.63

If 5db loops are desired, conditioning may be purchased at rates, terms, and conditions no less favorable than SWBT's tariff.

*These rates are interim subject to true-up and refund or surcharge at such time as the individual state commissions issue final orders determining appropriate rates.

Loop - Nonrecurring Charges

	First Loop	Each Additional Loop, Same Order, Same Premise
Oklahoma	$82.75	$50.00

Loop Cross Connect

In Oklahoma:

	Monthly
-From Loop to Multiplexing Equipment	$3.75
-From Loop to Collocation/Leased Floor Space	$1.50

- **Compensation for the delivery of traffic**

Traffic delivered to or from optional EAS areas will be compensated at a reciprocal rate of $0.0160 per minute in Oklahoma.

- **Interim Number Portability**

Monthly Recurring Charges:

	Oklahoma
Per number	$ 1.85 (3 paths)
Per add. path	.15
Extended area calling additive	N/A
Nonrecurring charge per order	12.50

APPENDIX DEFINE

SEPTEMBER 1996

Appendix DEFINE

1. DEFINITIONS

A. "Access Tandem" denotes a switching system that provides a concentration and distribution function for originating or terminating interexchange traffic between end offices and interexchange carriers.

B. "Ancillary Services" are services which support but are not required for interconnection of telecommunication networks between two or more parties, e.g., 911, DA, Operator Services, Directory and LIDB Service.

C. "Automatic Number Identification" or "ANI" is a switching system feature that forwards the telephone number of the calling party and is used for screening, routing and billing purposes.

D. "Calling Party Number" or "CPN" is a feature of signaling system 7 (SS7) protocol whereby the 10 digit number of the calling party is forwarded from the end office.

E. "Central Office Switch" means a single switching system within the public switched telecommunications network, including the following:

"End Office Switches" which are Class 5 switches where end user Exchange Services are directly connected and offered.

"Tandem Office Switches" which are Class 4 switches used to connect and switch trunk circuits between Central Office Switches.

Central Office Switches may be employed as combination End Office/Tandem Office switches (combination Class 5/Class 4).

F. "Common Channel Signaling" or "CCS" is a special network, fully separate from the transmission path of the public switched network, that digitally transmits call set-up and network control data. SWBT uses the Bellcore version of CCS protocol, generally referred to as "SS7."

G. "EAS Traffic" means traffic that originates and terminates within SWBT exchanges sharing an optional two-way local calling scope.

H. "Exchange" is the geographic territory delineated as an exchange area for SWBT by official commission boundary maps.

I. "Exchange Message Record" or "EMR" is the standard used for exchange of telecommunications message information among Local Exchange Carriers for

billable, non-billable, sample, settlement and study data. EMR format is contained in BR-010-200-010 *CRIS Exchange Message Record*, a Bellcore document which defines industry standards for exchange message records.

J. "Exchange Services" are two-way switched voice-grade telecommunications services with access to the public switched network which originate and terminate within an exchange.

K. "ISDN" means Integrated Services Digital Network, a switched network service providing end-to-end digital connectivity for the simultaneous transmission of voice and data. Basic Rate Interface-ISDN (BRI-ISDN) provides for digital transmission of two 64 Kbps bearer channels and one 16 Kbps data channel (2B+D). Primary Rate Interface-ISDN (PRI-ISDN) provides for digital transmission of twenty-three (23) 64 Kbps bearer channels and one 16 Kbps data channel (23 B+D).

L. "Local Number Portability" or "LNP" is a service arrangement whereby an end user, who switches subscription for Exchange Services from one provider to another, is permitted to retain, for its use, the existing assigned number provided that the end user remains at the same location.

M. "Local Exchange Carrier" or "LEC" means the incumbent carrier that provides facility-based Exchange Services which has universal service and carrier of last resort obligations.

N. "Local Service Provider" or "LSP" is a nonincumbent carrier which has obtained the certification and authority necessary to provide Exchange Services.

O. "Local Tandem" denotes a switching system that provides a concentration and distribution function for originating or terminating local traffic between end offices.

P. "Local Traffic" means traffic that originates and terminates within a SWBT exchange including mandatory local calling scope arrangements. Mandatory Local Calling Scope is an arrangement that requires end users to subscribe to a local calling scope beyond their basic exchange serving area.

Q. "MECAB" refers to the *Multiple Exchange Carrier Access Billing (MECAB)* document prepared by the Billing Committee of the Ordering and Billing Forum (OBF), which functions under the auspices of the Carrier Liaison Committee (CLC) of the Alliance for Telecommunications Industry Solutions (ATIS). The MECAB document, published by Bellcore as Special Report SR-BDS-000983, contains the recommended guidelines for the billing of access services provided to an IXC by two or more LECs, or by one LEC in two or more states within a single LATA. The latest release is issue No. 5, dated June 1994.

R. "MECOD" refers to the *Multiple Exchange Carriers Ordering and Design (MECOD) Guidelines for Access Services - Industry Support Interface*, a document developed by the Ordering/Provisioning Committee of the Ordering and Billing Forum (OBF), which functions under the auspices of the Carrier Liaison Committee (CLC) of the Alliance for Telecommunications Industry" Solutions (ATIS). The MECOD document, published by Bellcore as Special Report SR STS-002643, establish methods for processing orders for *access service* which is to be provided to an IXC by two or more telecommunications providers. The latest release is issue No. 3, dated February 1996.

S. "Meet-Point Billing" or "MPB" refers to a billing arrangement whereby two or more telecommunications providers jointly provide the transport element of a switched access service to an IXC, with each LEC receiving an appropriate share of the transport element revenues as defined by their effective access tariffs.

T. "North American Numbering Plan" or "NANP" means the system of telephone numbering employed in the United States, Canada, and certain Caribbean countries.

U. "Numbering Plan Area" or "NPA" is also called an area code. An NPA is the 3-digit code that occupies the A, B, and C positions in the 10-digit NANP format that applies throughout World Zone 1. NPAs are of the form NXX, where N represents the digits 2-9 and X represents any digit 0-9. In the NANP, NPAs are classified as either geographic or non-geographic.

a) Geographic NPAs are NPAs which correspond to discrete geographic areas within World Zone 1.

b) Non-geographic NPAs are NPAs that do not correspond to discrete geographic areas, but which are instead assigned for services with attributes, functionalities, or requirements that transcend specific geographic boundaries. The common examples are NPAs in the N00 format, "e.g., 800."

V. "NXX" "NXX Code," "Central Office Code" or "CO Code" is the three digit switch indicator which is defined by the "D", "E", and "F" digits of a 10-digit telephone number within the North American Numbering Plan ("NANP"). Each NXX Code contains 10,000 station numbers.

W. "Originating Traffic" is a voice-grade switched telecommunications service which is initiated as the result of an end-user's attempt to establish communications between itself and another end user(s).

X. "Terminating Traffic" is a voice-grade switched telecommunications service which is delivered to an end user(s) as a result of another end user's attempt to establish communications between the parties.

Y. "Through-put Transport" is the intermediate transport of local traffic between an originating LSP's or LEC's network and the terminating LEC's or LSP's network by a third party carrier which neither originates nor terminates that traffic on its network.

APPENDIX CA

SEPTEMBER 1996

Appendix CA

WHEREAS, the Parties' operations hereunder may include the disclosure of trade secrets and other highly confidential and/or proprietary information and data by the Parties;

NOW, THEREFORE, in consideration of mutual promises exchanged and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the Parties agree to the following terms governing the confidentiality of certain information one party ("Owner") may disclose to the other party ("Recipient"). As used in this Agreement, the term "Recipient" includes any of the Recipient's employees or agents.

1. **DEFINITIONS.** For purposes of this Confidentiality and Nondisclosure Agreement ("Agreement"), "Confidential Information" means all information of Owner or another party whose information Owner has in its possession under obligations of confidentiality, in whatever form transmitted, relating to business plans or operations, network design, systems and procedures and/or the sale, purchase, and use of services, which is disclosed by Owner or its affiliates to Recipient or its affiliates indicating its confidential and proprietary nature and marked confidential or proprietary. The term "affiliate" shall mean any person or entity controlling, controlled by or under common control with a party. The information, if in tangible form, shall be marked prominently with a legend identifying it as confidential. If the information is oral, then it shall be presumed by the Recipient to be confidential.

Notwithstanding the foregoing, Confidential Information shall not include any information of Owner that (a) was in the public domain at the time of the disclosing party's communications thereof to the receiving party; (b) entered the public domain through no fault of the receiving party subsequent to the time of the disclosing party's communication thereof to the receiving party; (c) was in the receiving party's possession free of any obligation of confidence at the time of disclosure by the other party; or (d) was disclosed to the receiving party by a nonparty source, free of any obligation of confidence, after disclosure by the party; or (e) was developed by employees or agents of the receiving party independently or and without reference to any of the Confidential Information that the disclosing party has provided to the receiving party.

2. **OWNERSHIP.** All Confidential Information in whatever form (including, with limitation, information in computer software or held in electronic storage media) shall be and remain property of Owner. All such Confidential Information shall be returned to Owner promptly upon written request and shall not be retained in any form by Recipient.

3. **NONDISCLOSURE.** Recipient shall not disclose any Confidential Information to any person or entity except employees, agents, or affiliates of Recipient who have a need to know (collectively "Representatives") and who have been informed of and agree to abide by Recipient's obligations under this Agreement. Each such Representative shall also be informed that by accepting such access, he thereby agrees to be bound by the provisions of this Agreement. Furthermore, by allowing any such access, the Recipient agrees to be and remain jointly and severally liable for any disclosure by any such Representative which is not in

accordance with this Agreement. Recipient shall use not less than the same degree of care to avoid disclosure of Confidential Information as Recipient uses for its own confidential information of like importance and, at a minimum shall exercise reasonable care. The Parties agree that this Agreement does not prohibit the disclosure of Confidential Information where applicable law requires, including but not limited to, in response to subpoenas and/or orders of a governmental agency or court of competent jurisdiction. In the event the Recipient receives an agency or court subpoena or order requiring such disclosure of Confidential Information, Recipient shall immediately, and in no event later than five (5) days after receipt, notify Owner in writing. All rights and obligations under this Agreement shall survive the expiration or termination of any contract or other agreement between Owner and Recipient. The obligations of the Parties under this Agreement shall continue and survive the completion of the aforesaid discussions and shall remain binding for a period of two (2) years from the date of execution of this Agreement. This provision shall remain binding for the above-stated period, even if the Parties abandon their efforts to undertake a possible business transaction together.

4. **REMEDIES.** The Parties agree that, in the event of a breach or threatened breach of the terms of this Agreement, Owner may seek any and all relief available in law or equity as a remedy for such breach, including but not limited to, monetary damages, specific performance, and injunctive relief. The Parties acknowledge that Confidential Information is valuable and unique and that disclosure will result in irreparable injury to Owner. In the event of any breach of this Agreement for which legal or equitable relief is sought, all reasonable attorney's fees and other reasonable costs associated therewith shall be recoverable by the prevailing Party.

5. **DISCLAIMER.** This Agreement and the disclosure and receipt of Confidential Information do not create or imply (i) any agreement with respect to the sale, purchase, or pricing of any product or service; or (ii) any right conferred, by license or otherwise, in any Confidential Information or in any patent, trademark, service mark, copyright, or other intellectual property.

APPENDIX NMC

SEPTEMBER 1996

Appendix NMC

I. TYPES OF NETWORK MANAGEMENT CONTROLS

Network Management controls are generally classified into one of two categories. These are protective (sometimes called restrictive) or **expansive** controls.

A. PROTECTIVE CONTROLS: Protective controls are used to reduce the volume of network attempts to a particular switching system, trunk group, geographical area code, or a particular telephone destination address. With the exception of the SKIP controls, any call affected by a protective control is normally sent to an announcement or office overflow(120 IPM). The following are considered to be protective controls:

Cancel From	CANF
Cancel To	CANT
Call Gap[1]	CG
Code Block[2]	CB
Dynamic Overload Control[3]	DOC
Preprogrammed Control[4]	PP
Selective Incoming Load Control	SILC
Skip	Skip

B. EXPANSIVE CONTROLS: **Expansive network controls** are used to divert network traffic to trunk groups outside the normal routing path. This diverting, called rerouting, can take place before or after the traffic has been offered to the controlled trunk group. Rerouting is used to compensate for temporary shortage of capacity in the normal routing choices. These shortages could be the result of facility failures, trunk outage, machine failures, or traffic volumes in excess of engineered capacity. **Expansive controls** consist of the following types of reroutes:

Immediate Reroute	IRR
Immediate Reroute Spray	IRRS

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[1]These are code controls and trunk group controls.

[2]These are code controls and trunk group controls.

[3] DOC may activate either protective or expansive controls.

[4] PP may be either protective or expansive depending on the translation information in the PP.

Preprogrammed Control[5]	PP
Regular Reroute	RR
Regular Reroute Spray	RRS

II. NETWORK MANAGEMENT CONTROL ACTIVATION

Network Management Controls may be activated on a flexible or preprogrammed basis. Each type is discussed below:

A. **PREPROGRAMMED CONTROL**: This is an arrangement where preprogrammed decisions concerning percentage, type of traffic, type of control, and via route have been made.

B. **FLEXIBLE CONTROL**: This feature enables the Network Manager to implement the most desirable control without being confined to Preprograms. In this method, an input message is sent to the switching system to be controlled. This message contains the trunk group or code to be controlled, type of traffic, and via route (if applicable) to be used.

C. **PRE & POST HUNT CONTROLS**: Trunk group controls which affect a call before it makes an attempt on the controlled group are called **pre-hunt** controls. Those controls which affect a call after it overflows the controlled group are called **post-hunt** controls. Each type of control is listed below in the proper category.

1)	**Pre-hunt**	2)	**Post-Hunt**
	CANT		CANF
	SKIP		RR
	IR		RRS

III. ROUTING CLASSIFICATIONS

At least one routing classification is specified in each network management control. The routing classifications available are Alternate routed (ALT), Direct routed (DIR), and Direct and Alternated Route (DAR). Traffic routing classifications are described as follows:

A. **ALTERNATE ROUTED (ALT)**: This classification affects network traffic which has overflowed another trunk group and alternate routed to the controlled trunk group. Implementing a control using ALT only will not affect any traffic using the controlled trunk group as a first route.

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[5] PP may be either protective or expansive depending on the translation information in the PP.

B. **DIRECT REROUTED (DIR)**: This classification affects network traffic which used the controlled trunk group as the first route. Implementing a control using DIR only, will not affect any traffic overflowing to the controlled group from another trunk group.

IV. PROTECTIVE CONTROL DESCRIPTIONS

A protective control is any network control that reduces the number of network paths or codes on which a call is allowed to make an attempt. Most protective controls block the affected calls and send them to an announcement or reorder tone (ROT or office overflow). However, the SKIP control only prevents the call from making an attempt on the controlled trunk group. Protective controls are used to prevent attempts to network problem areas. These problem areas could be a failed or congested switching system, circuit outages, or excessive calling to a particular location or area due to storms, floods, disasters, etc. The reasons for reducing attempts are varied and in some cases involve protecting the controlling offices as much as protecting the troubled area.

For example, any central office having a large trunk group to a failed switching system will experience numerous transmitter time-outs. If the attempts to the failed system are not reduced, all the originating system's transmitters could be delayed awaiting start dial indication from the failed system. In this case, canceling attempts frees transmitters in the originating system to handle productive network attempts. Protective controls can also be used to prevent excessive overflow traffic to a trunk group (ALT) from overpowering first rerouted traffic. Other uses of protective controls include allowing callers in an affected area to gain access to outgoing trunks, confining high-volume special interest calling to a selected area of the network, and preventing the spread of network congestion from one switching system to other switching systems. In extreme cases, special announcements are available to inform the customer of problems and consequently, reduce customer frustration and re-attempts.

A. **CALL GAP**: The Call Gap Control is a code control and not a trunk group control The Call Gap Control replaces the Code Blocking before it is offered to a trunk group. This control is used when the Network Manager wants to allow a measured rate of calling to the gapped number or code. Using NTMOS, call gaps are implemented by specifying the number of calls to be allowed on a given route within a 5-minute period rather than a percentage as is done with code blocks. Each index is generically arranged to allow one call be output by the controlled machine for the controlled code at the end of each predetermined interval. Table A below shows calls allowed for a 5-minute period and for a 1-hour period and the associated Gap Index. No calls are forwarded during the interval generically associated with the specified gap index. Calls not forwarded are sent to the announcement (normally a No Circuit Announcement) specified when the control was taken. Some useful applications of the Call Gap control are large concert ticket sales, radio station give-aways (not on the choke

network), telethons, focused overload calling to disaster areas, etc. A central office can be gapped on 3, 6, 7, or 10 digits. The machine can also gap an interexchange carrier access code (0XXX) or 0XXX + NPA or 0XXX + NPA + XXX call gap.

TABLE A

TYPICAL CALL GAP INDEX TABLE

GAP INDEX	CALLS/ 5 MIN	CALLS/ HR	INTERVAL (SECONDS)
00			OFF
01	OUTLINE	OUTLINE	0.00
02	3,000	36,000	0.10
03	1,200	14,400	0.25
04	600	7,200	0.50
05	300	3,600	1.00
06	150	1,800	2.00
07	60	720	5.00
08	30	360	10.0
09	20	240	15.0
10	10	120	30.0
11	5	60	60.0
12	2.5	30	120
13	1	12	300
14	0	6	600
15	NONE	NONE	STOP

B. **CANCEL FROM (CANF)**: This post-hunt trunk group control prevents the affected overflow traffic from alternate routing to the next in-chain trunk group. Blocked calls are given an NCA announcement. Control application is on a percentage basis and affects DAR traffic. The main purpose of this control is to make High-Usage groups finals. This control can also be revoked with a message which revokes all flexible trunk group control on all trunk groups. Depending upon the generic, the message is either FLEX-CLEAR- or FX-CLEAR-.

C. **CANCEL TO (CANT)**: This pre-hunt trunk group control prevents the affected traffic from making an attempt on the controlled trunk group. Blocked calls are given an NCA announcement. Control application is on a percentage basis and can affect ALT or DIR and ALT routed traffic. When ALT is specified only traffic which overflowed to the controlled group from another trunk group is

affected. This control is available on both a preprogrammed and flexible basis and is used to protect a switch experiencing severe overload or congestion.

D. **CODE BLOCK (CB)**: This control blocks a percentage of calls to the specified code. Blocked calls are sent to either NCA, EA1 or EA2. If the code blocked is a specific line number, it is sent to EA2. EA2 should have 60 IPM associated with it. Calls blocked by this control are blocked prior to trunk-hunt.

E. **MECHANICAL DYNAMIC OVERLOAD CONTROL (DOC)**: This is an automatic overload control feature whereby a failed or congested switching system can generate control signals to be transmitted to other offices. Only a few toll and tandem offices were arranged for the DOC transmit feature. Vendor specific DOC interfaces were rarely compatible. Automatic CCS7 Network Management controls superseded the need for DOC.

F. **PREPROGRAMMED CONTROLS (PP)**: PP controls can include any of the available trunk group controls (CT, CF, SK, RR, & IRR) except trunk reservation. Code controls cannot be preprogrammed.

G. **SELECTIVE INCOMING LOAD CONTROL (SILC)**: This control affects incoming MF signaling traffic only. This is an automatic control which is triggered when the switching system reaches the multifrequency (MF) or REAL TIME (RT) MC1 and/or MC2 overload threshold. The percent of traffic to be affected is entered into translations via the 1500D form. Allowable percentage figures are 0, 12, 25, 37, 50, 62, 75, 87 and 100. Normally the percentage input for MC1 is lower than that input for MC2. The switching system monitors incoming bids for service on a SILC controlled group and based on the specified percentage will place a percentage of bids on the High and Wet list. They will remain in the high and wet condition until the customer hangs up or the distant switching system's equipment times out. The control is designed to be used for switching systems that have neither DOC nor real time network management capabilities.

H. **SKIP CONTROL (SK)**: This pre-hunt trunk group control causes the affected traffic to skip over the controlled trunk group and attempt to find a trunk in the next alternate trunk group. Control application may be 000, 50, 75, and 100% and any affect DIR and/or ALT traffic. When ALT is specified, only traffic which overflowed to the controlled group from another trunk group is affected. Skip's may be either flexible or preprogrammed.

I. **TRUNK RESERVATION(TR)**: This pre-hunt trunk group control may only be activated on a flexible basis. It consists of two levels. First is protectional reservation of equipment (PRE) and second is directional reservation of

equipment (DRE). When the number of idle trunks on the controlled trunk group drops below the specified PRE threshold, all ALT traffic attempts are sent to NCA. When the number of idle trunks on the controlled group drops below the DRE threshold all traffic (ALT & DIR) is sent to NCA.

V. **EXPANSIVE CONTROL DESCRIPTION**: Expansive controls consist of reroutes. Reroutes allow traffic destined for one trunk group called the From Trunk Group (FTG) to be routed to another trunk group called the To Trunk Group (TTG).

There are four types of rerouted controls. These are **Immediate Reroute** (IRR), **Regular** (overflow), Reroute (RR), **Immediate Reroute Spray** (IRRS), **Regular** (overflow), and **Reroute Spray** (RRS). An IRR is a pre-hunt trunk group control that diverts the affected traffic to the via route before offering it to the controlled group. IRR's primary use is for facility failures when the CGA is missing. An RR is a post-hunt control that diverts the affected traffic after it overflows the FTG. It is used for facility failures, trunk shortages and to relieve pressure to a Tandem. IRRS is just like an IRR except that it can have up to seven via. An RRS is just like a RR except that it can have up to seven via. One major difference between PP sprays and flexible sprays is that PP sprays only offer the call to one TTG. Flexible sprays will hunt through all TTG's in a circular hunt.

A. **REROUTE CONSIDERATIONS**: With reroutes there are two traffic considerations:

1) Non-Reroutable Traffic(NRRT) - Any code designated non-Reroutable on the 1513form will not be affected by the control. Therefore, if an IRR is activated for a facility failure NRRT will continue to fail.

2) In-Chain Return - With flexible reroutes the Cancel-In Chain Return (CICR) option can be used. This means that returned to normal call processing.

B. **PP REROUTE OPTIONS**: The following options are available with preprogrammed reroute controls.

1) Two hunting options for FTG (immediate and regular)
2) Percentages for controlling traffic (0, 25, 50, 75, 100%)
3) Selections of TTG's (maximum of three)

C. **ENHANCED REROUTE OPTIONS**: Enhanced or flexible reroutes are activated with a TRY message. For a regular reroute (RR) all traffic is considered ALT. The following options are available with flexible reroute controls:

1) Able to spray traffic among 1 to 7 TAGS.
2) Cancel the normal in-chain trunk routing